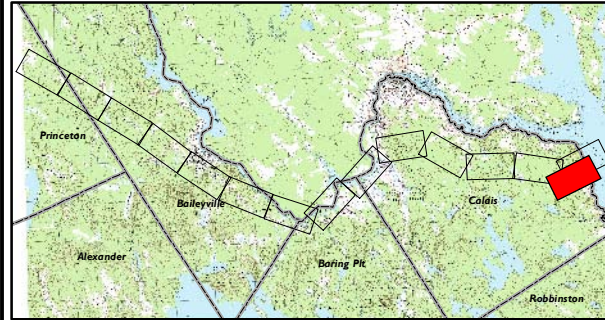
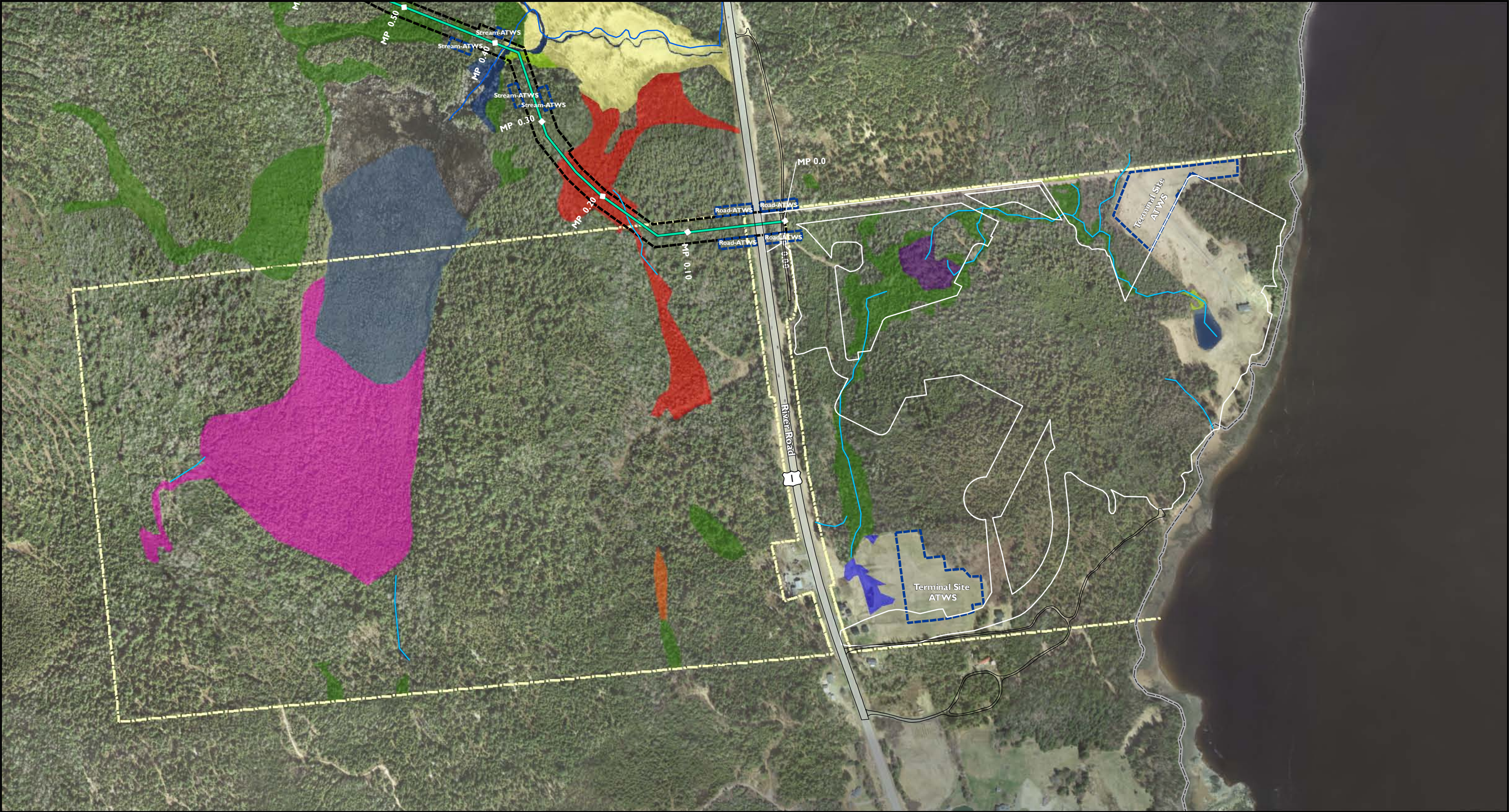


# Appendix D

## Wetland Mapping





Legend		

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

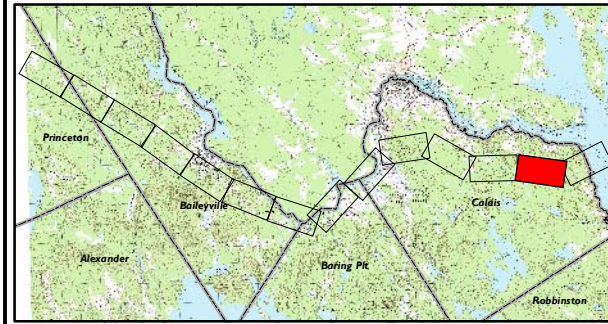
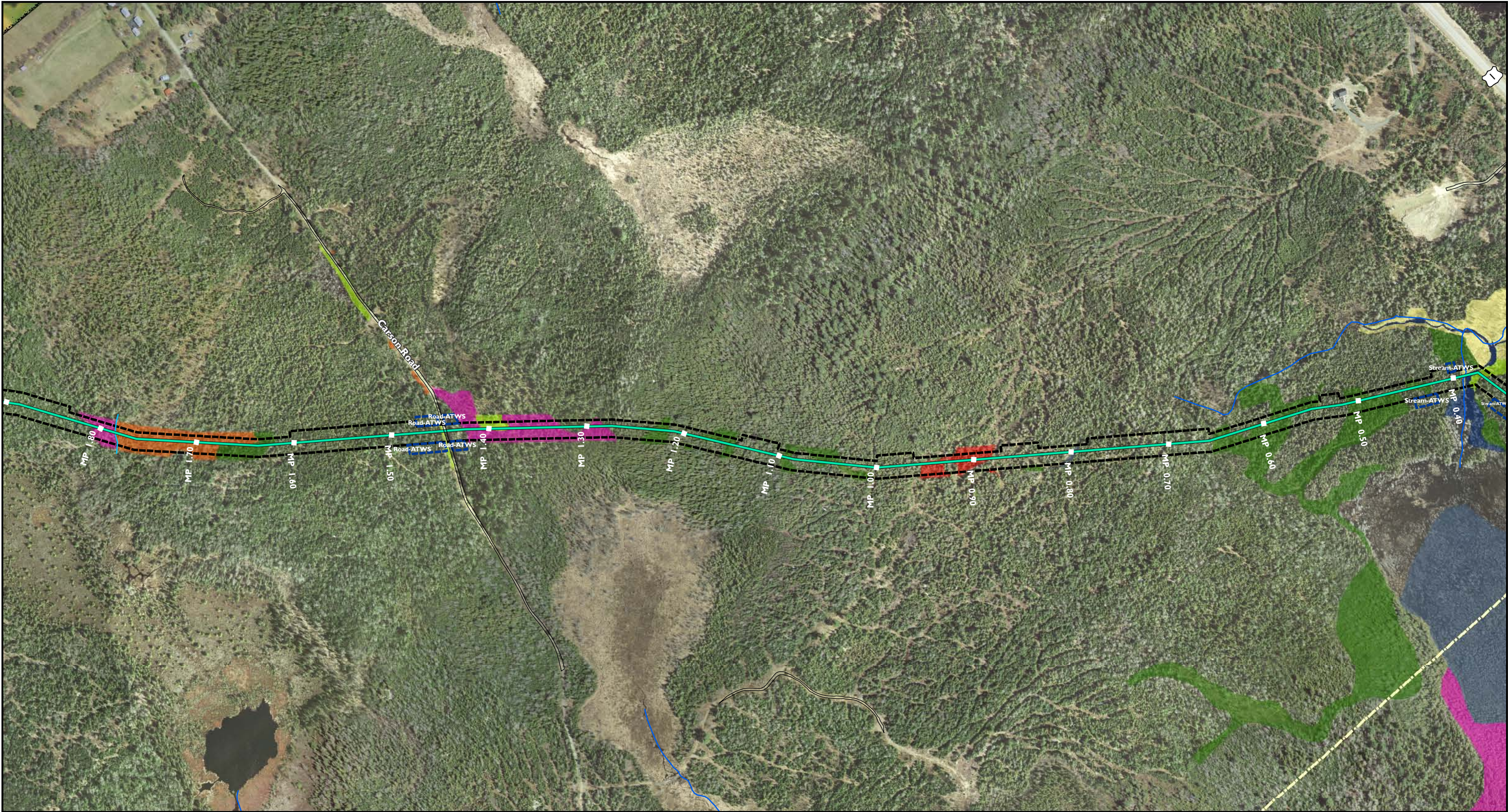
COMMITMENT & INTEGRITY DRIVE RESULTS

*Vanasse Hangen Brustlin, Inc.*

DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 1 of 14





Maine Natural Areas Program Wetland Classification		
Preferred Pipeline Route	Bluejoint Meadow, Shallow Marsh	Pickerelweed-Macrophyte Aquatic Bed
Preferred Construction Corridor	Bluejoint Meadow, Wet Meadow	Pickerelweed-Macrophyte Aquatic Bed/Sweetgale Mixed Shrub Fen
Horizontal Directional Drill Route	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland	Red Maple-Sensitive Fern Swamp
Horizontal Directional Drill ROW	Mixed Graminoid-Shrub Marsh, Shallow Marsh	Silver Maple Floodplain Forest
Terminal & Mitigation Site Boundaries	Alder Shrub Thicket	Spruce-Cinnamon Fern Forest
Work Area/Aboveground Facility	Cedar-Spruce Seepage Forest	Spruce-Fir-Cinnamon Fern Forest
Road ROW	Leatherleaf Boggy Fen	Sweetgale-Mixed Shrub Fen
River/Stream (ME GIS)	Northern White Cedar Swamp	Water (Ponds, Riverine, Ditches)
Delineated Stream (VHB)		
Moosehorn NWR Boundary		
Town Boundary		

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

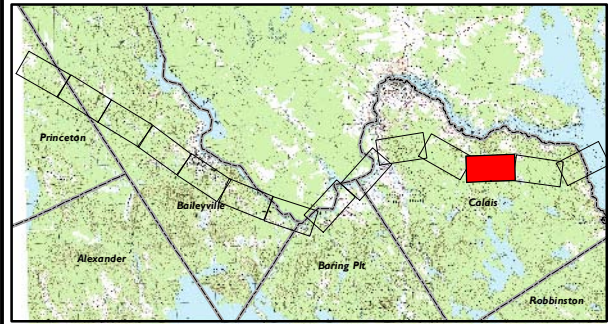
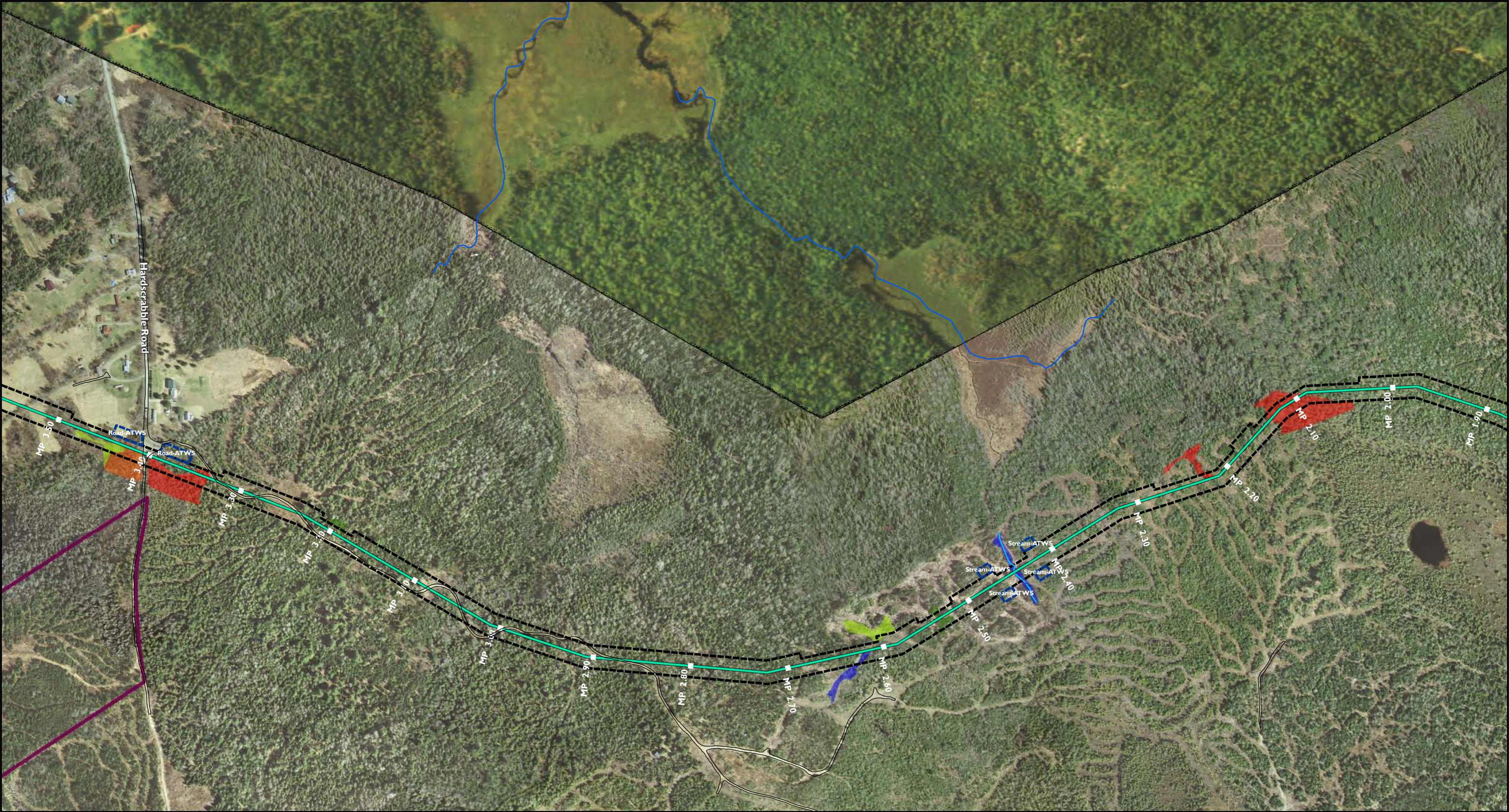
COMMITMENT & INTEGRITY DRIVE RESULTS

*Vanasse Hangen Brustlin, Inc.*


DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 2 of 14






Maine Natural Areas Program Wetland Classification		
Preferred Pipeline Route	Bluejoint Meadow, Shallow Marsh	Pickerelweed-Macrophyte Aquatic Bed
Preferred Construction Corridor	Bluejoint Meadow, Wet Meadow	Pickerelweed-Macrophyte Aquatic Bed/Sweetgale Mixed Shrub Fen
Horizontal Directional Drill Route	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland	Red Maple-Sensitive Fern Swamp
Horizontal Directional Drill ROW	Mixed Graminoid-Shrub Marsh, Shallow Marsh	Silver Maple Floodplain Forest
Terminal & Mitigation Site Boundaries	Alder Shrub Thicket	Spruce-Cinnamon Fern Forest
Work Area/Aboveground Facility	Cedar-Spruce Seepage Forest	Spruce-Fir-Cinnamon Fern Forest
Road ROW	Leatherleaf Boggy Fen	Sweetgale-Mixed Shrub Fen
River/Stream (ME GIS)	Northern White Cedar Swamp	Water (Ponds, Riverine, Ditches)
Delineated Stream (VHB)		
Moosehorn NWR Boundary		
Town Boundary		




41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)  
  
COMMITMENT & INTEGRITY DRIVE RESULTS




*Vanasse Hangen Brustlin, Inc.*

DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

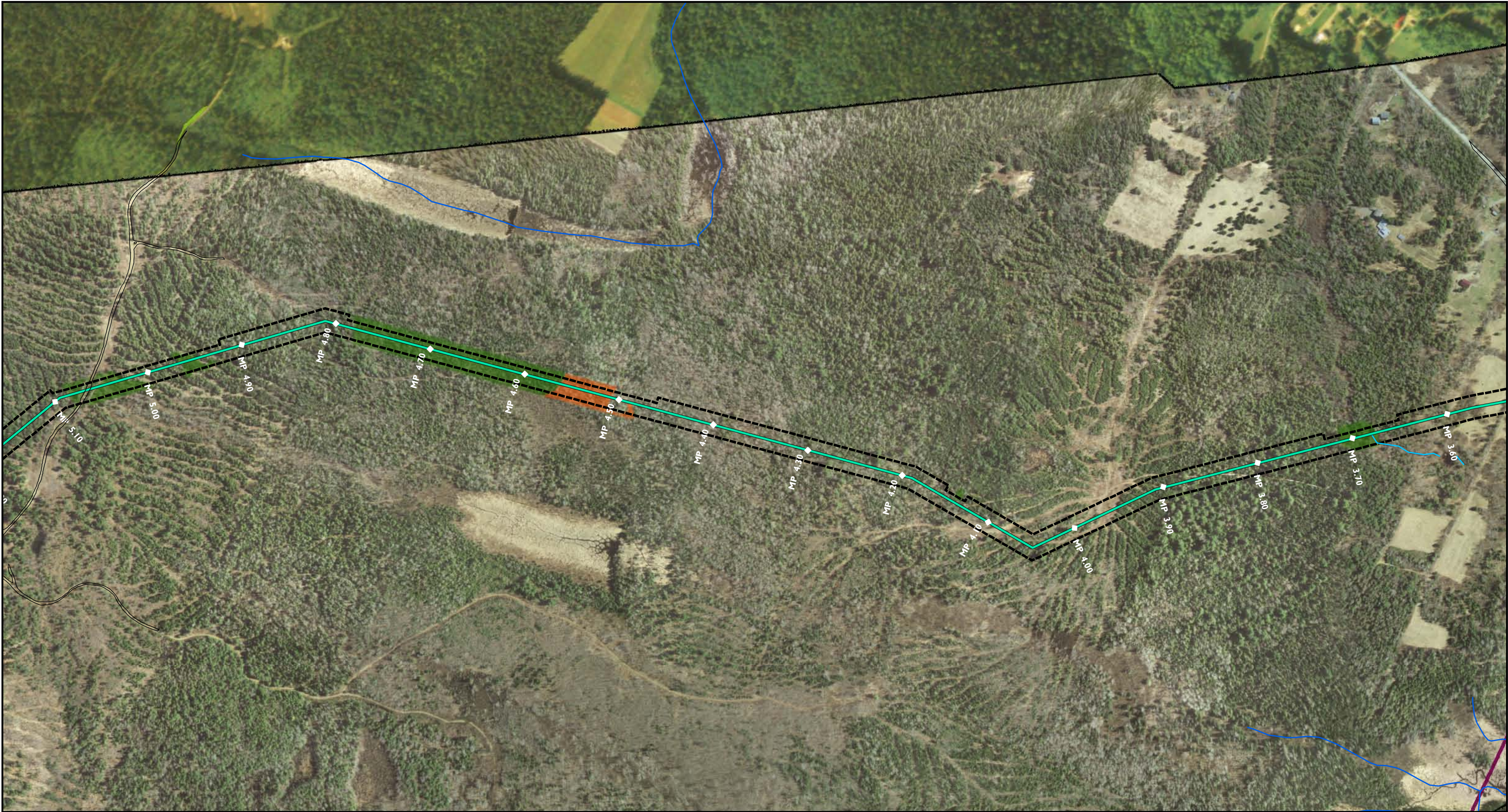


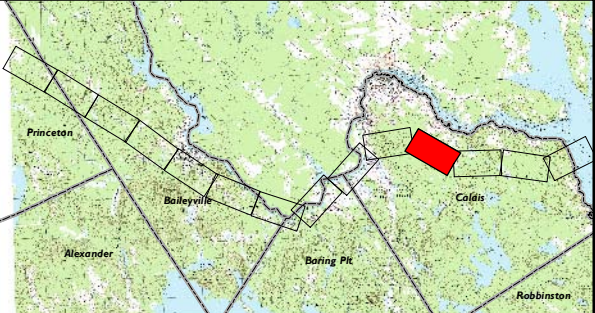
**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 3 of 14



02505001,000  
Feet








**Legend**

- Preferred Pipeline Route
- Preferred Construction Corridor
- Horizontal Directional Drill Route
- Horizontal Directional Drill ROW
- Terminal & Mitigation Site Boundaries
- Work Area/Aboveground Facility
- Road ROW
- River/Stream (ME GIS)
- Delineated Stream (VHB)
- Moosehorn NWR Boundary
- Town Boundary

**Maine Natural Areas Program Wetland Classification**

Bluejoint Meadow, Shallow Marsh	Pickerelweed-Macrophyte Aquatic Bed
Bluejoint Meadow, Wet Meadow	Pickerelweed-Macrophyte Aq. Bed/Sweetgale Mixed Shrub Fen
Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland	Red Maple-Sensitive Fern Swamp
Mixed Graminoid-Shrub Marsh, Shallow Marsh	Silver Maple Floodplain Forest
Alder Shrub Thicket	Spruce-Cinnamon Fern Forest
Cedar-Spruce Seepage Forest	Spruce-Fir-Cinnamon Fern Forest
Leatherleaf Boggy Fen	Sweetgale-Mixed Shrub Fen
Northern White Cedar Swamp	Water (Ponds, Riverine, Ditches)




41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

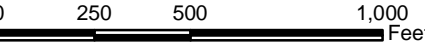

COMMITMENT & INTEGRITY DRIVE RESULTS

**VHB** *Vanasse Hangen Brustlin, Inc.*

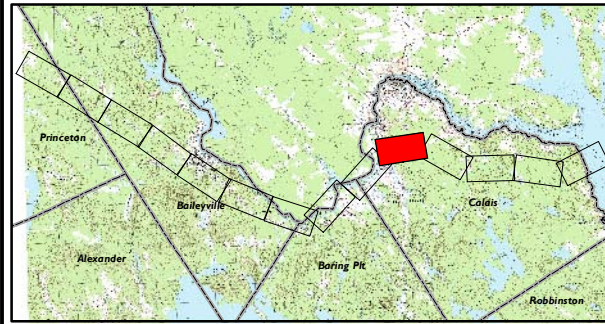
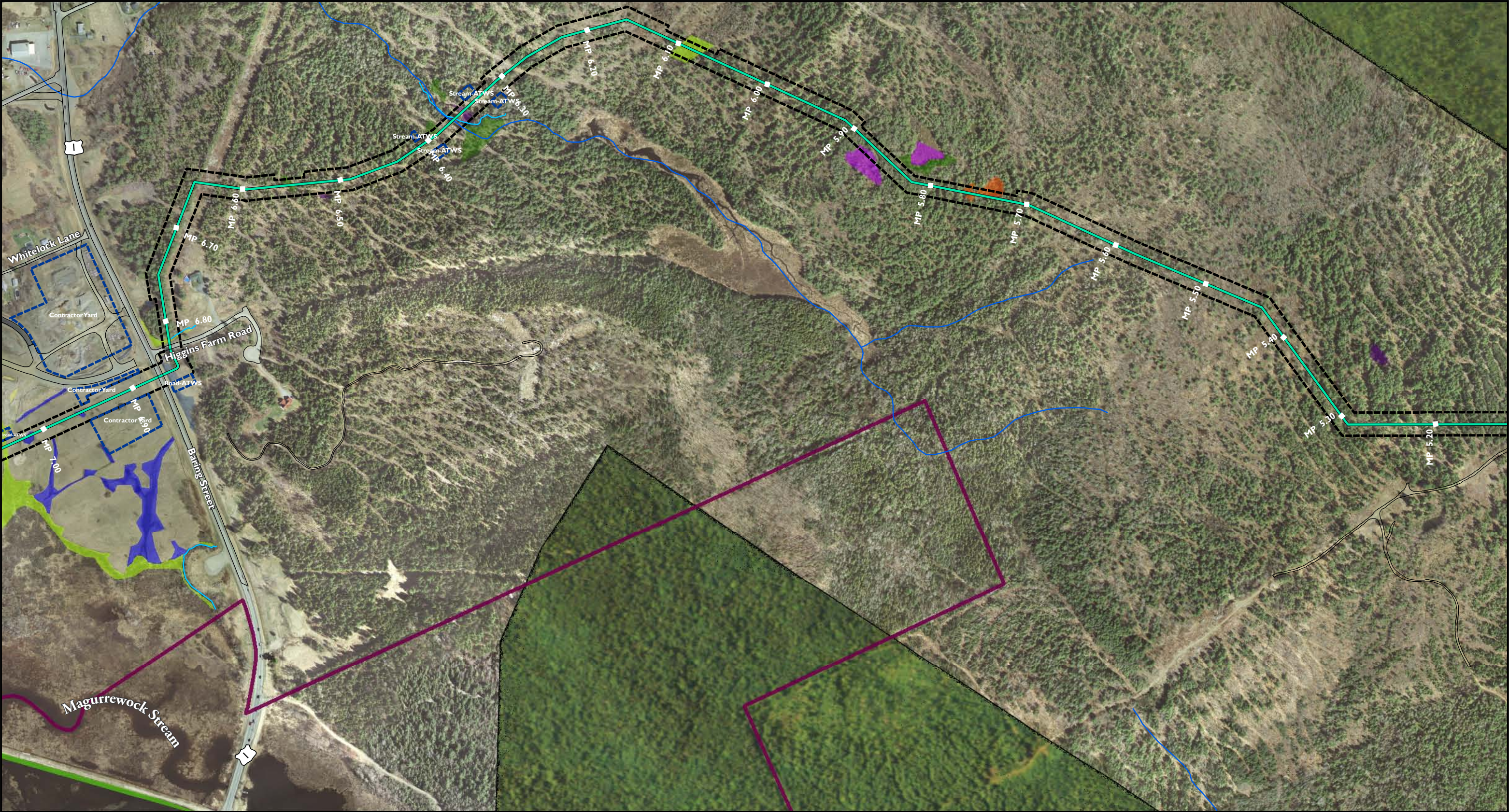
DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	




**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 4 of 14








Legend		Maine Natural Areas Program Wetland Classification			
	Preferred Pipeline Route		Bluejoint Meadow, Shallow Marsh		Pickerselweed-Macrophyte Aquatic Bed
	Preferred Construction Corridor		Bluejoint Meadow, Wet Meadow		Pickerselweed-Microphyt Aq. Bed/Sweetgale Mixed Shrub Fen
	Horizontal Directional Drill Route		Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland		Red Maple-Sensitive Fern Swamp
	Horizontal Directional Drill ROW		Mixed Graminoid-Shrub Marsh, Shallow Marsh		Silver Maple Floodplain Forest
	Terminal & Mitigation Site Boundaries		Alder Shrub Thicket		Spruce-Cinnamon Fern Forest
	Work Area/Aboveground Facility		Cedar-Spruce Seepage Forest		Spruce-Fir-Cinnamon Fern Forest
	Road ROW		Leatherleaf Boggy Fen		Sweetgale-Mixed Shrub Fen
	River/Stream (ME GIS)		Northern White Cedar Swamp		Water (Ponds, Riverine, Ditches)
	Delineated Stream (VHB)				
	Moosehorn NWR Boundary				
	Town Boundary				




41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

COMMITMENT & INTEGRITY DRIVE RESULTS





*Vanasse Hangen Brustlin, Inc.*

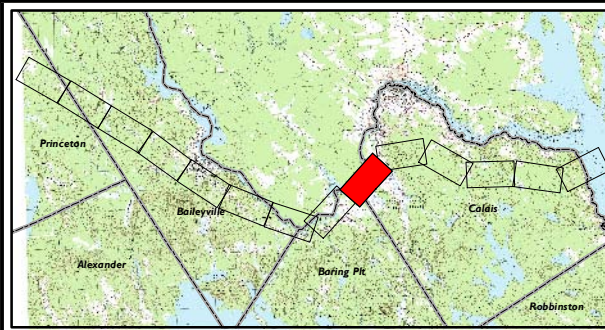
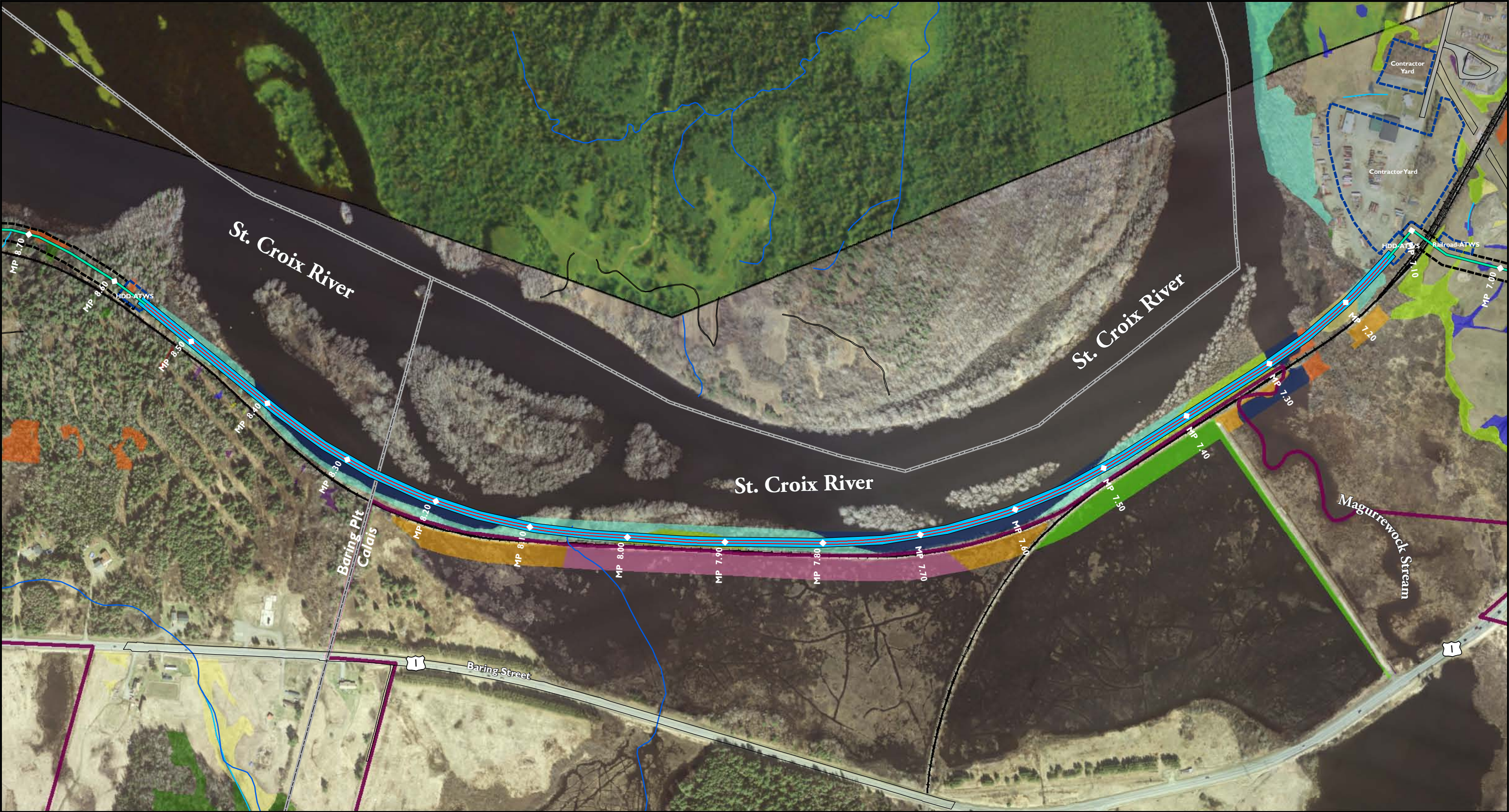
DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	



**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 5 of 14







Legend	
	Preferred Pipeline Route
	Preferred Construction Corridor
	Horizontal Directional Drill Route
	Horizontal Directional Drill ROW
	Terminal & Mitigation Site Boundaries
	Work Area/Aboveground Facility
	Road ROW
	River/Stream (ME GIS)
	Delineated Stream (VHB)
	Moosehorn NWR Boundary
	Town Boundary

Maine Natural Areas Program Wetland Classification	
	Bluejoint Meadow, Shallow Marsh
	Bluejoint Meadow, Wet Meadow
	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland
	Mixed Graminoid-Shrub Marsh, Shallow Marsh
	Alder Shrub Thicket
	Cedar-Spruce Seepage Forest
	Leatherleaf Boggy Fen
	Northern White Cedar Swamp
	Pickersweed-Macrophyte Aquatic Bed
	Pickersweed-Macrophyte Aq. Bed/Sweetgale Mixed Shrub Fen
	Red Maple-Sensitive Fern Swamp
	Silver Maple Floodplain Forest
	Spruce-Cinnamon Fern Forest
	Spruce-Fir-Cinnamon Fern Forest
	Sweetgale-Mixed Shrub Fen
	Water (Ponds, Riverine, Ditches)

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

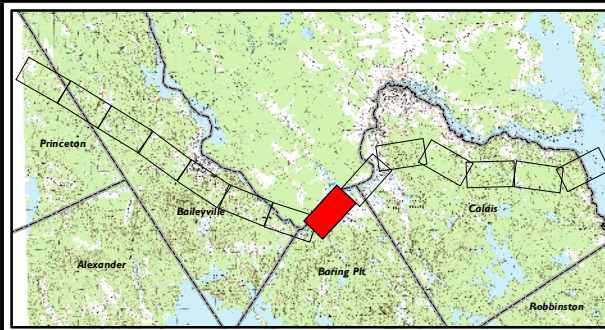
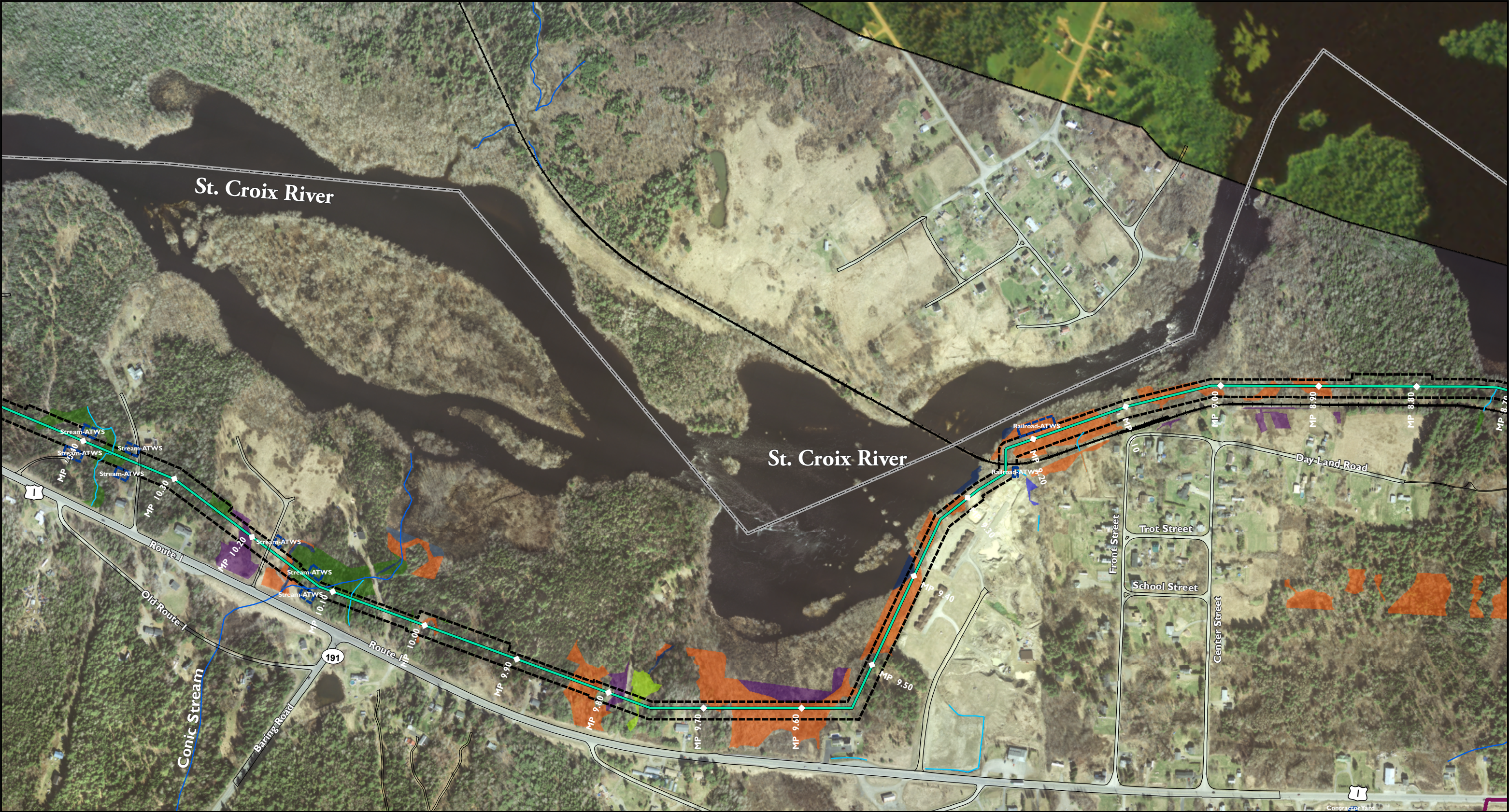
COMMITMENT & INTEGRITY DRIVE RESULTS

*Vanasse Hangen Brustlin, Inc.*

DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 6 of 14





Legend	
	Preferred Pipeline Route
	Preferred Construction Corridor
	Horizontal Directional Drill Route
	Horizontal Directional Drill ROW
	Terminal & Mitigation Site Boundaries
	Work Area/Aboveground Facility
	Road ROW
	River/Stream (ME GIS)
	Delineated Stream (VHB)
	Moosehorn NWR Boundary
	Town Boundary

Maine Natural Areas Program Wetland Classification			
	Bluejoint Meadow, Shallow Marsh		Pickerselweed-Macrophyte Aquatic Bed
	Bluejoint Meadow, Wet Meadow		Pickerselweed-Mcrophyt Aq. Bed/Sweetgale Mixed Shrub Fen
	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland		Red Maple-Sensitive Fern Swamp
	Mixed Graminoid-Shrub Marsh, Shallow Marsh		Silver Maple Floodplain Forest
	Alder Shrub Thicket		Spruce-Cinnamon Fern Forest
	Cedar-Spruce Seepage Forest		Spruce-Fir-Cinnamon Fern Forest
	Leatherleaf Boggy Fen		Sweetgale-Mixed Shrub Fen
	Northern White Cedar Swamp		Water (Ponds, Riverine, Ditches)

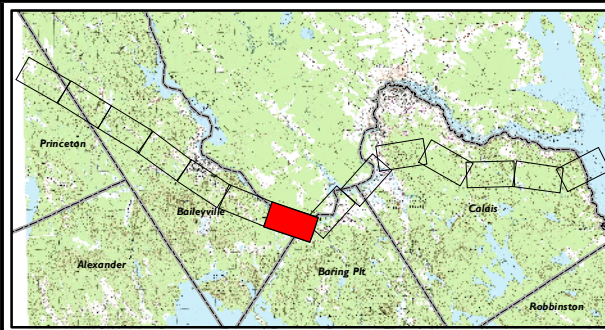
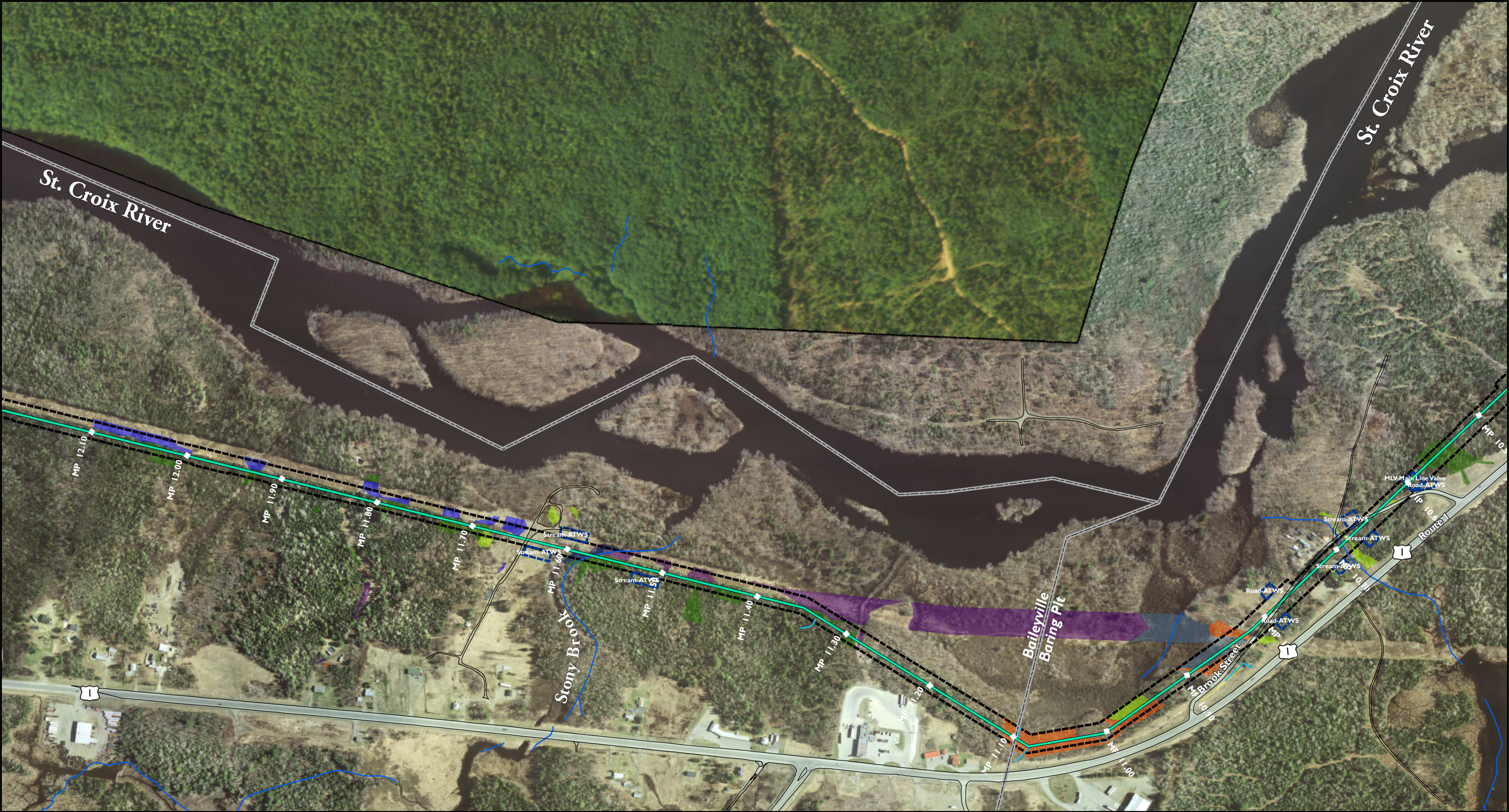
41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)  
COMMITMENT & INTEGRITY DRIVE RESULTS

*Vanasse Hangen Brustlin, Inc.*

DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 7 of 14





Legend	
	Preferred Pipeline Route
	Preferred Construction Corridor
	Horizontal Directional Drill Route
	Horizontal Directional Drill ROW
	Terminal & Mitigation Site Boundaries
	Work Area/Aboveground Facility
	Road ROW
	River/Stream (ME GIS)
	Delineated Stream (VHB)
	Moosehorn NWR Boundary
	Town Boundary

Maine Natural Areas Program Wetland Classification	
	Bluejoint Meadow, Shallow Marsh
	Bluejoint Meadow, Wet Meadow
	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland
	Mixed Graminoid-Shrub Marsh, Shallow Marsh
	Alder Shrub Thicket
	Cedar-Spruce Seepage Forest
	Leatherleaf Boggy Fen
	Northern White Cedar Swamp
	Pickerselweed-Macrophyte Aquatic Bed
	Pickerselweed-Mcrophyt Aq. Bed/Sweetgale Mixed Shrub Fen
	Red Maple-Sensitive Fern Swamp
	Silver Maple Floodplain Forest
	Spruce-Cinnamon Fern Forest
	Spruce-Fir-Cinnamon Fern Forest
	Sweetgale-Mixed Shrub Fen
	Water (Ponds, Riverine, Ditches)

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

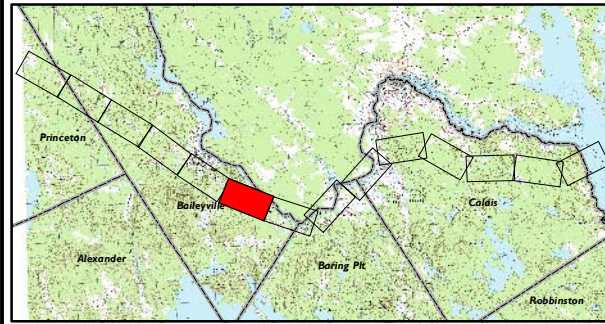
COMMITMENT & INTEGRITY DRIVE RESULTS

**Vanasse Hangen Brustlin, Inc.**

DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 8 of 14





Legend		
	Preferred Pipeline Route	
	Preferred Construction Corridor	
	Horizontal Directional Drill Route	
	Horizontal Directional Drill ROW	
	Terminal & Mitigation Site Boundaries	
	Work Area/Aboveground Facility	
	Road ROW	
	River/Stream (ME GIS)	
	Delineated Stream (VHB)	
	Moosehorn NWR Boundary	
	Town Boundary	

Maine Natural Areas Program Wetland Classification		
	Bluejoint Meadow, Shallow Marsh	
	Bluejoint Meadow, Wet Meadow	
	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland	
	Mixed Graminoid-Shrub Marsh, Shallow Marsh	
	Alder Shrub Thicket	
	Cedar-Spruce Seepage Forest	
	Leatherleaf Boggy Fen	
	Northern White Cedar Swamp	

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

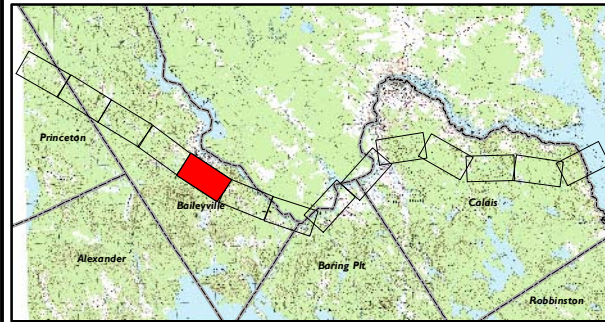
COMMITMENT & INTEGRITY DRIVE RESULTS

**Vanasse Hangen Brustlin, Inc.**


DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 9 of 14






Maine Natural Areas Program Wetland Classification		
Preferred Pipeline Route	Bluejoint Meadow, Shallow Marsh	Pickerelweed-Macrophyte Aquatic Bed
Preferred Construction Corridor	Bluejoint Meadow, Wet Meadow	Pickerelweed-Macrophyte Aq. Bed/Sweetgale Mixed Shrub Fen
Horizontal Directional Drill Route	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland	Red Maple-Sensitive Fern Swamp
Horizontal Directional Drill ROW	Mixed Graminoid-Shrub Marsh, Shallow Marsh	Silver Maple Floodplain Forest
Terminal & Mitigation Site Boundaries	Alder Shrub Thicket	Spruce-Cinnamon Fern Forest
Work Area/Aboveground Facility	Cedar-Spruce Seepage Forest	Spruce-Fir-Cinnamon Fern Forest
Road ROW	Leatherleaf Boggy Fen	Sweetgale-Mixed Shrub Fen
River/Stream (ME GIS)	Northern White Cedar Swamp	Water (Ponds, Riverine, Ditches)
Delineated Stream (VHB)		
Moosehorn NWR Boundary		
Town Boundary		




41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

COMMITMENT & INTEGRITY DRIVE RESULTS

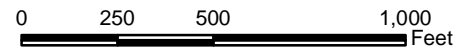



*Vanasse Hangen Brustlin, Inc.*

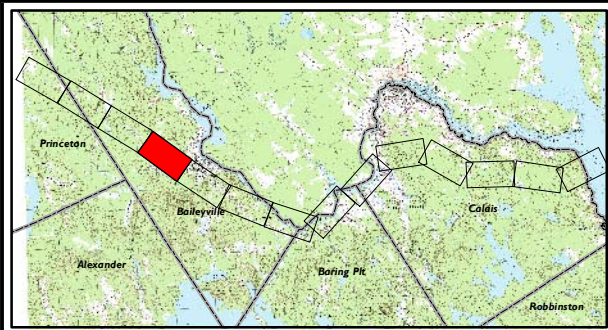
DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	



**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 10 of 14







Legend		

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

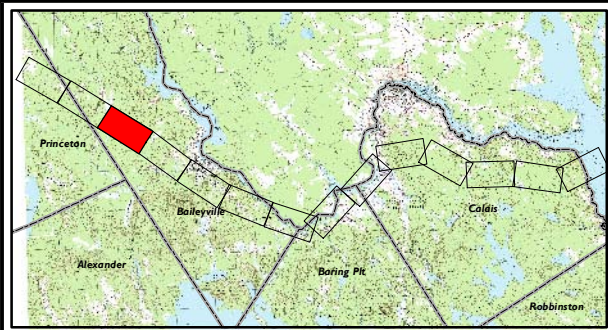
COMMITMENT & INTEGRITY DRIVE RESULTS

*Vanasse Hangen Brustlin, Inc.*


DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	

**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 11 of 14






Maine Natural Areas Program Wetland Classification		
Preferred Pipeline Route	Bluejoint Meadow, Shallow Marsh	Pickerelweed-Macrophyte Aquatic Bed
Preferred Construction Corridor	Bluejoint Meadow, Wet Meadow	Pickerelweed-Macrophyte Aquatic Bed/Sweetgale Mixed Shrub Fen
Horizontal Directional Drill Route	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland	Red Maple-Sensitive Fern Swamp
Horizontal Directional Drill ROW	Mixed Graminoid-Shrub Marsh, Shallow Marsh	Silver Maple Floodplain Forest
Terminal & Mitigation Site Boundaries	Alder Shrub Thicket	Spruce-Cinnamon Fern Forest
Work Area/Aboveground Facility	Cedar-Spruce Seepage Forest	Spruce-Fir-Cinnamon Fern Forest
Road ROW	Leatherleaf Boggy Fen	Sweetgale-Mixed Shrub Fen
River/Stream (ME GIS)	Northern White Cedar Swamp	Water (Ponds, Riverine, Ditches)
Delineated Stream (VHB)		
Moosehorn NWR Boundary		
Town Boundary		




41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

COMMITMENT & INTEGRITY DRIVE RESULTS

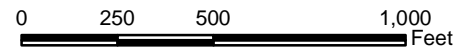



*Vanasse Hangen Brustlin, Inc.*

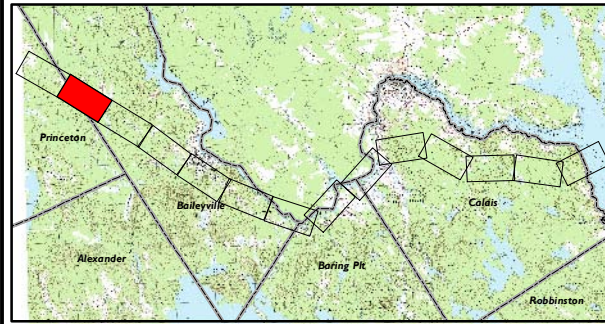
DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	



**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 12 of 14







Legend		Maine Natural Areas Program Wetland Classification			
	Preferred Pipeline Route		Bluejoint Meadow, Shallow Marsh		Pickerelweed-Macrophyte Aquatic Bed
	Preferred Construction Corridor		Bluejoint Meadow, Wet Meadow		Pickerelweed-Microphyte Aq. Bed/Sweetgale Mixed Shrub Fen
	Horizontal Directional Drill Route		Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland		Red Maple-Sensitive Fern Swamp
	Horizontal Directional Drill ROW		Mixed Graminoid-Shrub Marsh, Shallow Marsh		Silver Maple Floodplain Forest
	Terminal & Mitigation Site Boundaries		Alder Shrub Thicket		Spruce-Cinnamon Fern Forest
	Work Area/Aboveground Facility		Cedar-Spruce Seepage Forest		Spruce-Fir-Cinnamon Fern Forest
	Road ROW		Leatherleaf Boggy Fen		Sweetgale-Mixed Shrub Fen
	River/Stream (ME GIS)		Northern White Cedar Swamp		Water (Ponds, Riverine, Ditches)
	Delineated Stream (VHB)				
	Moosehorn NWR Boundary				
	Town Boundary				

41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

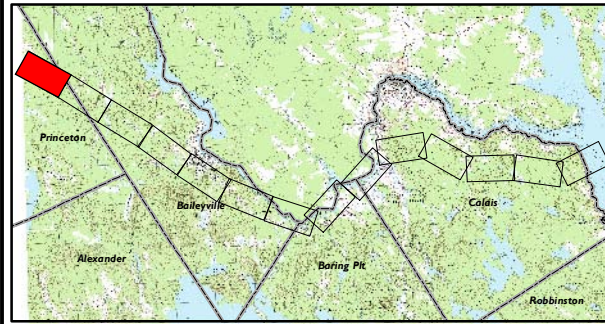
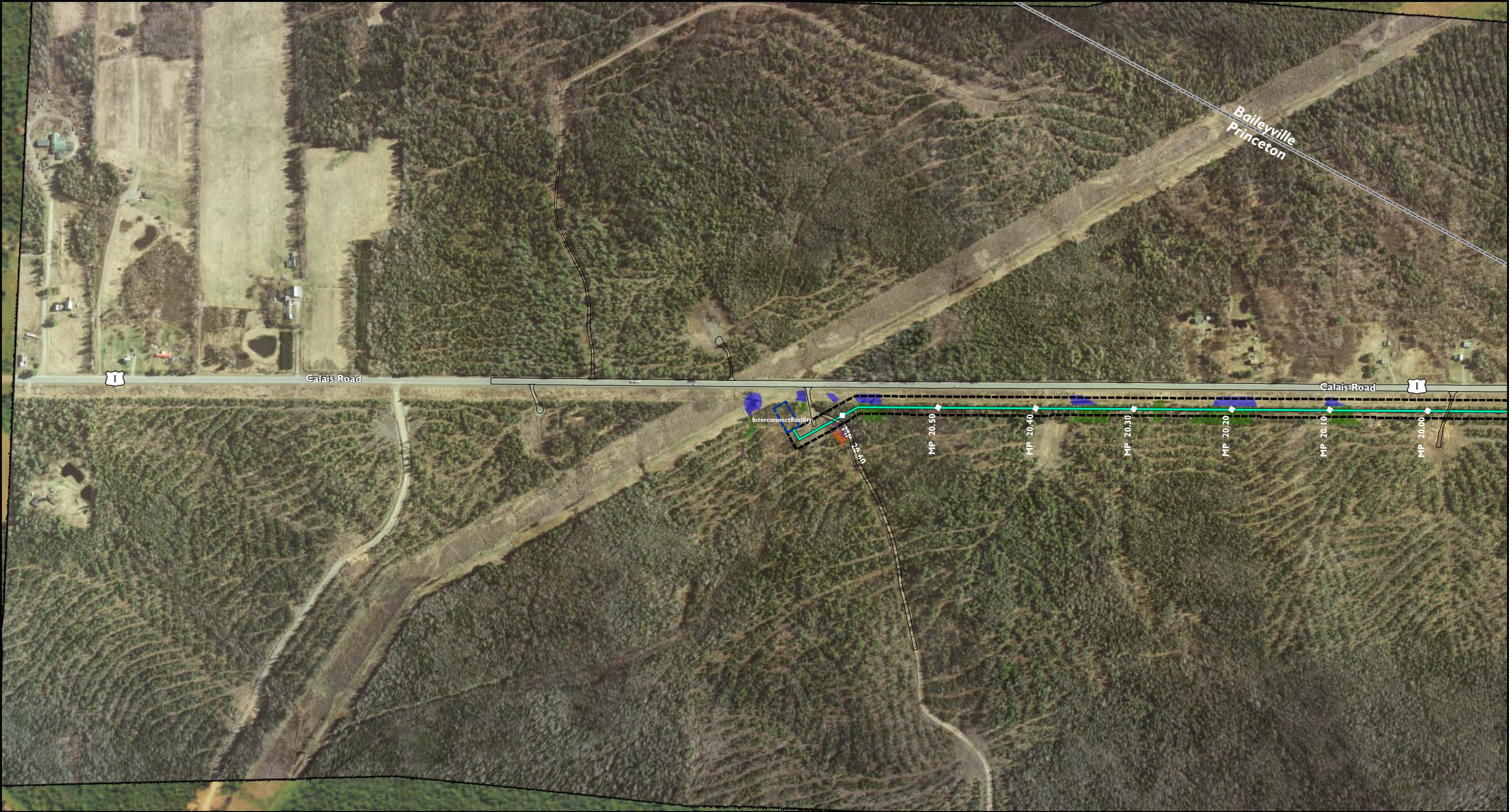
COMMITMENT & INTEGRITY DRIVE RESULTS

*Vanasse Hangen Brustlin, Inc.*

DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	


**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 13 of 14






Legend	
	Preferred Pipeline Route
	Preferred Construction Corridor
	Horizontal Directional Drill Route
	Horizontal Directional Drill ROW
	Terminal & Mitigation Site Boundaries
	Work Area/Aboveground Facility
	Road ROW
	River/Stream (ME GIS)
	Delineated Stream (VHB)
	Moosehorn NWR Boundary
	Town Boundary

Maine Natural Areas Program Wetland Classification	
	Bluejoint Meadow, Shallow Marsh
	Bluejoint Meadow, Wet Meadow
	Mixed Graminoid-Shrub Marsh, Scrub-Shrub Wetland
	Mixed Graminoid-Shrub Marsh, Shallow Marsh
	Alder Shrub Thicket
	Cedar-Spruce Seepage Forest
	Leatherleaf Boggy Fen
	Northern White Cedar Swamp
	Pickersweed-Macrophyte Aquatic Bed
	Pickersweed-Macrophyte Aq. Bed/Sweetgale Mixed Shrub Fen
	Red Maple-Sensitive Fern Swamp
	Silver Maple Floodplain Forest
	Spruce-Cinnamon Fern Forest
	Spruce-Fir-Cinnamon Fern Forest
	Sweetgale-Mixed Shrub Fen
	Water (Ponds, Riverine, Ditches)




41 Hutchins Drive  
Portland, Maine 04102  
800.426.4262 | [www.woodardcurran.com](http://www.woodardcurran.com)

COMMITMENT & INTEGRITY DRIVE RESULTS



**Vanasse Hangen Brustlin, Inc.**

DRAWN BY: DEA	SCALE: 1" = 500'
DATE: December 2009	NAME: MNAPCoverTypes.mxd
Data Sources: Delineated vegetation cover types and streams mapped by VHB scientists Spring/Summer 2008 & 2009. Pipeline data, imagery and base data provided by Woodard & Curran.	



**Appendix D**  
Maine Natural Areas Program  
Wetland Communities  
Sheet 14 of 14

